217/782-2113

"REVISED"
TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT[1]

PERMITTEE

Royster-Clark Nitrogen
Attn: Susan Von Stein, Environmental and Quality Assurance Manager
16675 Highway 20 West
East Dubuque, Illinois 61025

Application No.: 96010003 I.D. No.: 085809AAA
Applicant's Designation: Date Received: January 26, 1996
Operation of: Nitrogenous Fertilizer Manufacturing
Date Issued: October 23, 2003 Expiration Date[2]: October 23, 2008
Source Location: 16675 Highway 20 West, East Dubuque, Jo Daviess County
Responsible Official: John H. Diesch, Director of Nitrogen Division

This permit is hereby granted to the above-designated Permittee to OPERATE a nitrogenous fertilizer manufacturing source, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

Revision Date Received: January 31, 2005
Revision Date Issued: August 10, 2005
Purpose of Revision: Minor Modification

This minor modification revises the operating limits and short-term NO_x emission limits for the MR-52 flare tip in Conditions 7.1.5 and 7.1.6 and clarifies the emission calculation procedures in Condition 7.1.12.

This document only contains those portions of the entire CAAPP permit that have been revised as a result of this permitting action. If a conflict exists between this document and previous versions of the CAAPP permit, this document supercedes those terms and conditions of the permit for which the conflict exists. The previous permit issued October 23, 2003 is incorporated herein by reference. Please attach a copy of this amendment and the following revised pages to the front of the most recently issued entire permit.

If you have any questions concerning this permit, please contact Jonathan Sperry at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JS:psj

cc: Illinois EPA, FOS, Region 2
CES
Lotus Notes

[1] This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 – federal PSD and 35 IAC Part 203 – Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

[2] Except as provided in Condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Royster-Clark Nitrogen
16675 Highway 20 West
East Dubuque, Illinois 61025
815/747-3101

I.D. No.: 085809AAA
Standard Industrial Classification: 2873, Nitrogenous Fertilizers

1.2 Owner/Parent Company

Royster-Clark Nitrogen, Inc.
16675 Highway 20 West
East Dubuque, Illinois 61025

1.3 Operator

Royster-Clark Nitrogen
16675 Highway 20 West
East Dubuque, Illinois 61025

Susan Von Stein, Environmental and Quality Assurance Manager
815/747-3101

1.4 General Source Description

Royster-Clark Nitrogen is located at 16675 Highway 20 West in East Dubuque, Illinois. The source is a manufacturing operation providing nitrogenous fertilizers for use in agriculture. Among the chemical manufacturing operations are anhydrous ammonia, urea, nitric acid, ammonium nitrate, and urea ammonium nitrate. In addition, carbon dioxide, a byproduct of ammonia synthesis, is recovered for sale. The facility has a chemical liquid distribution terminal, including barge loading/unloading capabilities, and truck and railcar loading.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon Monoxide
dscf	dry standard cubic foot
dscm	dry standard cubic meter
ERMS	Emissions Reduction Market System
°F	degrees Fahrenheit
FIRE	Factor Information Retrieval System, Versions 5.0 and 6.21, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-454/R-95-012 and EPA-454/F-99-003), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717
ft	foot
ft^3	cubic foot
g	gram
HAP	Hazardous Air Pollutant
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
°K	degrees Kelvin
kg	kilogram
kPa	kilopascal
kW	kilowatts
lb	pound
m	meter
mmBtu	Million British thermal units
MW	megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	parts per million
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
psia	pound per square inch
RMP	Risk Management Plan

SCC	Source Classification Code
scf	standard cubic foot
SO_2	Sulfur Dioxide
T1	Title I – identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New – identifies Title I conditions that are being established in this permit
T1R	Title I Revised – identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USC	United States Code
USEPA	United States Environmental Protection Agency
VOL	Volatile Organic Liquid
VOM	Volatile Organic Material

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

None

3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Synthesis Loop Bleed Down Vent Stack (MR-61 Stack)
Clark Compressor Recircular Cylinder Bleed Down Vent Stacks (C-2A, C-2B, C-2C)
Latex Polymer Storage Tank (TK-101)
Urea Formaldehyde Concentrate Storage Tank (UF-85)
Bulk Area Loading
Lime Unloading
Rock Salt Unloading

3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.

3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110. In addition, the Permittee shall comply with 35 IAC 212.301, which generally prohibits the emission of fugitive particulate matter beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour).

3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
Ammonia Plant			
SG-1	Sulfur Guards (Desulfurization Unit)	7/1965	None
R-1	Primary Reformer (371.5 mmBtu/hr)	7/1965	MR-51 Flare Tip (For Process Gas, During Startup and Shutdown Only)
R-2	Secondary Reformer	1965	
R-3	High Temperature Shift Converter	1965	
R-4	Low Temperature Shift Converter	1965	
T-1	Carbon Dioxide Absorber	1965	
R-5	Methanator	1965	
DC-20	Clark Suction Drum	1965	
W-1A	Cooling Tower	1965	None
W-1E	Cooling Tower	1978	None
W-1D	Cooling Tower	1978	None
W-1B	Cooling Tower	1974	None
W-1C	Cooling Tower	1976	None
W-1F	Cooling Tower	1997	None
H-R4	Low Temperature Shift Converter Startup Heater (3.5 mmBtu/Hr)	1/1967	None
T-2	Hot Potassium Absorbent Regenerator	1/1965	None
C-02A, C-02B, C-02C	Clark Compressors (150 mmBtu/Hr Total)	1/1965	None
H-R6	Ammonia Synthesis Converter Startup Heater (26 mmBtu/Hr)	7/1967	None
Safety Flare	Ammonia Safety Flare (For Ammonia Storage Tanks)	1991	None
Liquid Carbon Dioxide Plants			
QC-2	Ingersoll-Rand Compressor (20 mmBtu/Hr)	9/1971	None
Urea Plant			
UR-4A	Falling Film Evaporator	1/1975	Scrubber (UF-R42)
UR-4B	Falling Film Evaporator	1/1975	Scrubber (UF-R42)
D24	Curtain Granulator	1/1992	Scrubber (G52)
C39	Fluidized Bed Process Cooler	10/1992	Scrubber (G53)
G54	Dust Separator	10/1992	Scrubber (G56)
UT3	Prill Tower	7/1965	None
Latex Fertilizer Coating Plant			
FB-200	Air Fluidized Bed Preheater	9/1995	Baghouse (BH-200)
FB-300	Fluidized Bed Spray Coating Unit	9/1995	Baghouse (BH-300)

Emission Unit	Description	Date Constructed	Emission Control Equipment
FB-500	Post Heat Fluidized Bed	9/1995	Baghouse (BH-500)
FB-600	Fluidized Bed Cooler	9/1995	None
Nitric Acid Plants			
Tower1	Secondary Absorption Tower (Plant #1)	7/1978	None
Tower2	Absorption Tower (Plant #2)	7/1997	Selective Catalytic Reduction
Nitric Acid Storage			
ME-01-0109A	Nitric Acid Storage Tank #1 (50,000 Gal)	7/1978	Packed Bed Scrubber and Brink HV Mist Eliminator
ME-01-0109B	Nitric Acid Storage Tank #2 (25,000 Gal)	6/1986	Packed Bed Scrubber and Brink HV Mist Eliminator
062-D-1806	Nitric Acid Storage Tank #3 (120,000 Gal)	1/1962	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3602	Nitric Acid Storage Tank #4 (50,000 Gal)	1988	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3604	Nitric Acid Storage Tank #5 (50,000 Gal)	1988	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3606	Nitric Acid Storage Tank #6 (50,000 Gal)	1988	Packed Bed Scrubber and Brink HV Mist Eliminator
Ammonium Nitrate Plant			
AN-1	Acid Neutralizer	8/1979	Packed Bed Scrubber and Brink HV Mist Eliminator
Boiler House			
S-5	S-5 Boiler (70.5 mmBtu/Hr)	1965	None
S-6	S-6 Boiler (48 mmBtu/Hr)	1967	None
S-7	S-7 Boiler (170 mmBtu/Hr)	1975	None
Petroleum Storage Tanks			
Gas1	Gas Tank (881 Gallons)	7/1965	None

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of CO, NO_x, PM_{10}, and VOM emissions.

5.1.2 This permit is issued based on the source being a major source of HAPs.

5.2 Applicable Regulations

5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:

a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

Compliance with this requirement is considered to be assured by the inherent nature of operations at this source, as demonstrated by historical operation.

b. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.

c. No person shall cause or allow the total emissions of sulfur dioxide into the atmosphere in any one hour period from all fuel combustion emission sources to exceed the emissions determined by 35 IAC 214.183 [35 IAC 214.182].

Compliance with this requirement is considered to be assured by the inherent operating conditions of all emission units combusting natural gas.

d. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm [35 IAC 214.301].

5.2.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.2.4 Risk Management Plan

a. This stationary source, as defined in 40 CFR Section 68.3, is subject to 40 CFR Part 68, the Accidental Release Prevention regulations [40 CFR 68.215(a)(1)].

b. The owner or operator of a stationary source shall revise and update the RMP submitted, as specified in 40 CFR 68.190.

5.2.5 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

c. This stationary source may be subject to the rules listed below when such rule becomes final and effective. The Permittee shall comply with the applicable requirements of such regulation by the date(s) specified in such regulation and shall certify compliance with the applicable requirements of such regulation as part of the annual compliance certification required by 40 CFR Part 70 or 71 beginning in the year that compliance is required under a final and effective rule.

i. 40 CFR Part 63, Subpart FFFF, Miscellaneous Organic Chemical Production and Processes (Note that the applicability of this subpart for this source was not determined as of the date this permit was issued.);

ii. 40 CFR Part 63, Subpart YYYY, Combustion Turbines (Note that the emergency or limited use turbines at this source are not subject to an emission limitation in the proposed rule.);

iii. 40 CFR Part 63, Subpart ZZZZ, Reciprocating Internal Combustion Engines (Note that the existing, 2-stroke lean burn engines at this source are not subject to an emission limitation in the proposed rule.); and

iv. 40 CFR Part 63, Subpart DDDDD, Industrial, Commercial and Institutional Boilers and Process Heaters. (Note that the existing, natural gas fired boilers at this source are not subject to an emission limitation in the proposed rule.)

5.2.6 Episode Action Plan

a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.

b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.

c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA

for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.

d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:

i. Illinois EPA, Compliance Section; and

ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or

iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

5.2.7 CAM Plan

This stationary source has a pollutant-specific emissions unit that is subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The source must submit a CAM plan for each affected pollutant-specific emissions unit upon application for renewal of the initial CAAPP permit, or upon a significant modification to the CAAPP permit for the construction or modification of a large pollutant-specific emissions unit which has the potential post-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

5.3 Non-Applicability of Regulations of Concern

5.3.1 This permit is issued based on the source not being subject to the NSPS for Phosphate Fertilizer Industry, 40 CFR 61, Subparts T through X, because the fertilizer products manufactured at this source are not phosphoric acid, diammonium phosphate fertilizers, or triple superphosphate fertilizers.

5.3.2 This permit is issued based on the source not being subject to the NESHAP for Phosphate Fertilizer Production Plants, 40 CFR 63, Subpart BB, because the fertilizer products manufactured at this source are not diammonium phosphate fertilizers, monoammonium phosphate fertilizers, or granular triple superphosphate fertilizers.

5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	1,138.74
Sulfur Dioxide (SO_2)	2.04
Particulate Matter (PM)	171.03
Nitrogen Oxides (NO_x)	3,004.93
HAP, not included in VOM or PM	4.32
Total	4,321.06

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 Records for VOM and HAP Emissions

The Permittee shall maintain records of the following items for the source to quantify annual VOM and HAP emissions, so as to demonstrate compliance with the annual emission limits in Condition 5.5:

a. Aggregate monthly VOM emissions from emission units included in Section 7 of this permit; and

b. Aggregate monthly HAP emissions from emission units included in Section 7 of this permit, calculated as a fraction of VOM emissions according to vapor weight percent.

5.6.5 Records for Operating Scenarios

N/A

5.6.6 Retention and Availability of Records

a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.

b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source. This may be included in the annual emissions report required pursuant to Condition 9.7.

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and compliance procedures in Section 7 (Unit Specific Conditions) of this permit.

a. For the purpose of estimating emissions from natural gas fuel combustion, the current version of AP-42, Section 1.4 (for boilers) and Section 3.2 (for turbines, engines, or compressors) are acceptable.

b. For the purpose of estimating emissions from the storage tanks, the most recent version of TANKS is acceptable.

c. For the purpose of estimating HAP emissions from equipment at the source, the vapor weight percent of each HAP for each organic liquid times the VOM emissions contributed by that organic liquid is acceptable.

6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

7.1 Unit: Ammonia Plant
Control: Flares

7.1.1 Description

The source synthesizes ammonia from natural gas supplied by pipeline. The design capacity of the system is 870 tons per day of ammonia.

The ammonia process consists of a series of six chemical reactors. The natural gas feedstock is initially fed through a desulfurization unit. In this first step, the sulfur content is removed to prevent poisoning of the catalyst in the reforming step. Desulfurization is accomplished using activated carbon beds. The carbon beds are regenerated with super-heated steam, which results in emissions of hydrogen sulfide and carbonyl sulfide (each is a HAP). The regeneration process typically lasts 24 hours and is conducted once every three weeks.

The treated natural gas is mixed with process steam and heated prior to entering the primary reformer through tubes filled with catalyst. Approximately 70% of the methane in natural gas is converted to hydrogen and carbon dioxide, with some conversion to carbon monoxide. This process gas is then sent to the secondary reformer, where it is mixed with compressed air to produce synthesis gas with a three-to-one mole ratio of hydrogen to nitrogen.

The cooled process gas is fed to a series of shift converters, where catalysts convert carbon monoxide and water to carbon dioxide and hydrogen. The hydrogen is used in ammonia synthesis, and the carbon dioxide is used in urea production (see Section 7.3) or sold to a carbon dioxide distributor.

The carbon dioxide absorber is a packed tower with an aqueous potassium solution to separate out the carbon dioxide byproduct from the ammonia synthesis gas. The absorbent solution is continuously regenerated in an adjacent absorbent regenerator unit, a steam-stripping tower that drives off the carbon dioxide from the absorbent. The exhaust from the absorbent regenerator is normally fed to the carbon dioxide plants and the urea plant for recovery, and does not vent directly to the atmosphere.

Residual carbon dioxide in the synthesis gas is removed by catalytic methanation. The high temperature and high pressure process converts carbon monoxide and carbon dioxide to methane and water. The exit gas, with a 3-to-1

mole ratio of hydrogen to nitrogen, is cooled for final ammonia synthesis.

In the ammonia synthesis step, the synthesis gas is compressed in three natural gas-fired compressors operating in parallel (see Section 7.7), mixed with recycled synthesis gas, cooled, and separated from condensed ammonia. The mixed synthesis gas is compressed, heated, and sent to a catalytic synthesis converter. Ammonia from the exit gas is condensed and separated from the unconverted synthesis gas and sent to storage. A small portion of the overhead gas is purged to the primary feed gas header system to prevent the buildup of non-reactive gases, such as argon, methane, and helium.

Ammonia is stored in two 7.2 million gallon tanks, which are controlled by a refrigeration system comprised of electric compressors with an ammonia capacity of 2,500 pounds. The tank vent rate is designed for a normal flow rate of 2,500 pounds per hour of ammonia at the design relief pressure of 9 inches of water. Ammonia is vented from the tanks when tank pressures exceed pre-set limits designed to maintain safe operation of the tanks. These ammonia emissions are vented to a safety flare, where ammonia is converted to nitrogen dioxide. These flaring incidents result from power disruption or mechanical failure of one or more compressors or due to low pressure weather systems. (Note: Since ammonia is not a criteria pollutant, the safety flare, rather than the tanks, is the emission unit.)

During plant startup and shutdown, process gases from various sources in the ammonia plant are directed to a vent stack equipped with a flare tip. The flare is an emission source for NO_x, CO, and PM_{10} (products of fuel and process gas combustion).

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
SG-1	Sulfur Guards (Desulfurization Unit)	None
R-1	Primary Reformer (371.5 mmBtu/Hr)	MR-51 Flare Tip (For Process Gas, During Startup and Shutdown Only)
R-2	Secondary Reformer	
R-3	High Temperature Shift Converter	
R-4	Low Temperature Shift Converter	
T-1	Carbon Dioxide Absorber	
R-5	Methanator	
DC-20	Clark Suction Drum	

Emission Unit	Description	Emission Control Equipment
W-1A	Cooling Tower	None
W-1E	Cooling Tower	None
W-1D	Cooling Tower	None
W-1B	Cooling Tower	None
W-1C	Cooling Tower	None
W-1F	Cooling Tower	None
T-2	Hot Potassium Absorbent Regenerator	None
Safety Flare	Ammonia Safety Flare (For Ammonia Storage Tanks)	None

7.1.3 Applicability Provisions and Applicable Regulations

a. The "affected ammonia plant" for the purpose of these unit-specific conditions, includes the emission units listed in Condition 7.1.2 involved in an the production of ammonia.

b. The affected ammonia plant is subject to the emission limits identified in Condition 5.2.2.

c. The affected ammonia plant is subject to 35 IAC 215.301, which states that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material [35 IAC 215.301].

d. The affected ammonia plant is subject to 35 IAC 212.322(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 1) [35 IAC 212.322(a)].

7.1.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected ammonia plant not being subject to the New Source Performance Standards (NSPS) for Ammonium Sulfate Manufacture, 40

CFR Part 60, Subpart PP, because the affected ammonia plant does not manufacture ammonium sulfate.

b. This permit is issued based on the affected ammonia plant not being subject to 40 CFR Part 63, Subpart Q, Industrial Cooling Towers, because the cooling towers are not operated with chromium-based water treatment chemicals.

c. This permit is issued based on the affected ammonia plant not being subject to 35 IAC 216.121, because the process emission units in the affected ammonia plant are not by definition fuel combustion emission units.

d. This permit is issued based on the affected ammonia plant not being subject to 35 IAC Part 217, Subparts K and O, because the affected ammonia plant emission units do not use or produce nitric acid.

e. This permit is issued based on the affected ammonia plant (except emission unit R-1, Primary Reformer) not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the other emission units in the affected ammonia plant either do not use an add-on control device to achieve compliance with an emission limitation or standard or do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.1.5 Operational And Production Limits And Work Practices

a. Operation of the MR-51 flare tip shall not exceed 24 flare burn sequences per year and 250 hours per year. These limits are revised from limits established in Permit 73070033. Specifically, the annual operating limit is reduced from 672 hours to 250 hours [T1R].

b. The MR-51 flare shall only operate during startup and shutdown of primary reformer.

c. Operation of the ammonia safety flare shall not exceed 10,310 lb/month and 28,600 lb/year of vented ammonia. The monthly limit is based on the maximum operation due to weather events and half of the annual operation due to power outages and ammonia unloading.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected ammonia plant is subject to the following:

a. Emissions from the MR-51 flare tip shall not exceed the following limits:

Pollutant	Pollutant Emissions (Lb/Sequence)	(Ton/Year)
NO_x	2,680	1.8
CO	2,846	10.0
PM	377	1.3

These limits are based on the operating limits in Condition 7.1.5, operation at the maximum firing rate (473 mmBtu/hr for natural gas and process gases) for the entire flare burn sequence and emission factors listed in Condition 7.1.12.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations contain revisions to previously issued Permit 73070033. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the short-term NO_x emission limit was increased from 531 pounds per sequence to 2,680 pounds per sequence to allow operational flexibility [T1R].

b. Emissions from the ammonia safety flare shall not exceed the following limits:

Pollutant	Pollutant Emissions (Ton/Month)	(Ton/Year)
NO_x	25.9	38.8

These limits are based on the operating limits in Condition 7.1.5 and the maximum emissions for each operating scenario.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the NO_x emissions from the ammonia safety flare below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

7.1.7 Testing Requirements

None

7.1.8 Monitoring Requirements

None

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected ammonia plant to demonstrate compliance with Conditions 5.5.1, 7.1.5, and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall keep written records of the throughput of the affected ammonia plant and/or individual emission sources as related to the requirements established by Conditions 7.1.5 and 7.1.6. These records may include normal production and operating records and shall be kept on at least a monthly basis.

b. The Permittee shall record any period during which any emission source was in operation when its air

pollution control equipment was not in operation or was not operating properly. These records shall include the cause for pollution control equipment not operating properly, and shall state what corrective actions were taken, what repairs were made, and what steps were taken to prevent reoccurrence.

c. The Permittee shall record any period during which an emission source was not operating normally, in a manner which would exceed the capability of its air pollution control equipment. These records shall include the cause, and shall state what corrective actions were taken and what steps were taken to prevent reoccurrence.

d. The Permittee shall keep records of monthly and annual aggregate NO_x, CO, PM, SO_2, and VOM emissions from the affected ammonia plant, based on operating rates and the applicable emission factors, with supporting calculations.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected ammonia plant with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Operation of or emissions of NO_x, CO, or PM from the affected ammonia plant in excess of the limits specified in Conditions 7.1.5 or 7.1.6 based on the calendar year records, within 30 days of such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected ammonia plant without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

a. Operation of the sulfur guards in both the normal operating mode (desulfurization of methane) or the

regeneration mode (to regenerate the activated carbon beds using superheated steam) is allowed.

b. Operation of the ammonia safety flare during low pressure weather systems, power outages, mechanical failure of one or more compressors, and ammonia barge unloading is allowed.

7.1.12 Compliance Procedures

a. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.1.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
Sulfur Guards	VOM/HAP	0.016 Lb/10^6 Ft Natural Gas	1
Primary Reformer	NO_x	0.79 Lb/Ton Ammonia	2
	PM/PM_{10}	0.144 Lb/Ton Ammonia	3
	SO_2	0.0048 Lb/Ton Ammonia	3
	VOM	0.09 Lb/Ton Ammonia	2
Cooling Towers	PM/PM_{10}	6.407 Lb/Hr	1
Hot Potassium Absorbent Regenerator	VOM/HAP	3.00 Lb/Ton Ammonia	4
MR-51 Flare	CO	0.37 Lb/mmBtu	5
	NO_x	0.068 Lb/mmBtu	5
	PM/PM_{10}	0.049 Lb/mmBtu	6
	SO_2	0.588 Lb/10^6 Ft Natural Gas	6
	VOM	5.39 Lb/10^6 Ft Natural Gas	6
Ammonia Safety Flare	NO_x	Ammonia Flow * 2.71	1
Ammonia Safety Flare (Pilot)	NO_x	98 Lb/10^6 Ft Natural Gas	6
	PM/PM_{10}	7.45 Lb/10^6 Ft Natural Gas	6
	SO_2	0.588 Lb/10^6 Ft Natural Gas	6
	VOM	5.39 Lb/10^6 Ft Natural Gas	6

The above emission factors are from the following sources (See Emission Factor Source Column):

[1] Material Balance

[2] Stack Test Conducted in 1995

[3] FIRE, SCC 3-01-003-06

[4] Manufacturer's Data

[5] Table 13.5-1, AP-42, Volume I, September 1991

[6] Table 1.4-2, AP-42, Volume I, Supplement D, March 1998 (Using a Heating Value of 1,000 Btu/scf)

Emissions (ton) = [(Operating Rate) * (The Appropriate Emission Factor)] / (2000 lb/ton)

Note: The operating or firing rate may be variable throughout any process or burn sequence. Total emissions are the sum of the emissions at each operating or firing rate.

7.2 Unit: Ammonia Plant Preheaters

7.2.1 Description

The ammonia plant utilizes two supplementary natural gas-fired process heaters during startup.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
H-R4	Low Temperature Shift Converter Startup Heater (3.5 mmBtu/Hr)	None
H-R6	Ammonia Synthesis Converter Startup Heater (26 mmBtu/Hr)	None

7.2.3 Applicability Provisions and Applicable Regulations

a. The "affected heaters" for the purpose of these unit-specific conditions, are fuel combustion emission units used to provide heat, as listed in Condition 7.2.2.

b. The emission of carbon monoxide (CO) into the atmosphere from affected heater H-R6, with actual heat input greater than 2.9 MW (10 mmBtu/hr), shall not exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

c. The affected heaters are subject to the emission limits identified in Condition 5.2.2.

7.2.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected heaters not being subject to the New Source Performance Standard for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, because the affected heaters are not considered steam generating units.

b. This permit is issued based on the affected heater H-R4 not being subject to 35 IAC 216.121, Emissions of Carbon Monoxide from Fuel Combustion Emission Units, because the actual heat input of the heater H-R4 is less than 2.9 MW (10 mmBtu/hr).

c. This permit is issued based on the affected heaters not being subject to 35 IAC 217.141, Emissions of Nitrogen Oxides from Existing Fuel Combustion Emission Sources in Major Metropolitan Areas, because

the actual heat input of the units are less than 73.2 MW (250 mmBtu/hr).

d. Pursuant to 35 IAC 215.303, each affected heater, i.e., fuel combustion emission unit, is not subject to 35 IAC 215.301, Use of Organic Material.

e. This permit is issued based on the affected heaters not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected heaters do not use an add-on control device to achieve compliance with an emission limitation or standard.

7.2.5 Operational And Production Limits And Work Practices

None

7.2.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.2.7 Testing Requirements

None

7.2.8 Monitoring Requirements

None

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected heaters to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

a. Total natural gas usage in the affected heaters (ft^3/year); and

b. Annual aggregate NO_x, PM, SO_2, and VOM emissions from the affected heaters, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected heater with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe

the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Notification within 60 days of operation of an affected heater that may not have been in compliance with the opacity limitations in Condition 5.2.2(b), with a copy of such record for each incident.

b. Emissions of NO_x, PM, SO_2, or VOM from the affected heaters in excess of the limits specified in Condition 5.5.1 based on the calendar year records, within 30 days of such an occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

a. Compliance with Conditions 7.2.3(b) and (c) is demonstrated under inherent operating conditions of an affected heater fired with natural gas, so that no compliance procedures are set in this permit addressing these requirements.

b. Compliance with the emission limits in condition 5.5 from the affected heaters shall be based on the recordkeeping requirements in Condition 5.6.2 and the emission factors and formulas listed below:

Pollutant	Emission Factor ($Lb/10^6 Ft^3$)
PM	7.6
SO_2	0.6
VOM	5.5
NO_x	100.0

These are the emission factors for uncontrolled natural gas combustion in small boilers (<100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement D, March 1998.

Heater emissions (ton/year) = Natural Gas Consumed (10^6 ft^3/year) x The Appropriate Emission Factor ($lb/10^6$ ft^3) x (0.0005 ton/lb)

7.3 Unit: Urea Plant
Control: Scrubbers

7.3.1 Description

Liquid ("molten") urea solution is produced from the reaction of liquid ammonia and carbon dioxide gas at high temperature and pressure. The on-site ammonia plant supplies all the feed materials for the urea plant.

The production of urea is a two-step reaction process that consists of the formation and subsequent dehydration of ammonium carbamate. The plant uses the total recycle process, in which any residual ammonia-carbon dioxide mixture is recycled back to the urea reactor. The solution resulting from this reaction is approximately 70% urea. The urea solution is either concentrated in falling film evaporators prior to granulation or prilling, or mixed with ammonium nitrate and water to produce urea ammonium nitrate solution. The falling film evaporators have a wet scrubber for the control of PM and PM_{10} emissions.

When the urea plant is in operation, a portion of the exhaust from the absorbent regeneration column in the ammonia plant (emission unit T-2 in Condition 7.1.2) is routed to the urea plant. These gases are either exhausted through an inerts vent or the evaporator scrubber or passed through to the ammonium nitrate plant neutralizer (emission unit AN-1 in Condition 7.6.2).

The urea solution is further processed by granulation or prilling. For granulation, an anti-cracking additive (mostly formaldehyde) is blended into the urea melt. The formaldehyde reacts with urea to form methylenediurea, which reduces solids caking during storage and reduces urea dust formation during transport and handling. For prilling, molten urea is sprayed from the top of the prill tower. As the droplets fall, they cool and solidify into spherical particles.

The pollutants of concern for the urea plant are PM and formaldehyde (a HAP and VOM).

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
UR-4A	Falling Film Evaporator	Scrubber (UF-R42)
UR-4B	Falling Film Evaporator	Scrubber (UF-R42)
D24	Curtain Granulator	Scrubber (G52)
C39	Fluidized Bed Process Cooler	Scrubber (G53)
G54	Dust Separator	Scrubber (G56)
UT3	Prill Tower	None

7.3.3 Applicability Provisions and Applicable Regulations

a. The "affected urea plant" for the purpose of these unit-specific conditions, includes the emission units listed in Condition 7.3.2 involved in an the production of urea granules or prills.

b. The affected urea plant is subject to the emission limits identified in Condition 5.2.2.

c. The affected urea plant is subject to 35 IAC 212.321(b), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. The affected urea plant is subject to 35 IAC 215.301, which states that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material [35 IAC 215.301].

7.3.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected urea plant not being subject to 40 CFR 52.21, because the construction of the granulator, cooler, and dust separator did not constitute a major modification, as a consequence of the conditions in Permits 75050110 and 91070051. The modifications and accompanying emissions decreases to the affected urea plant constituted a net increase of less than 15 tons PM_{10} per year.

7.3.5 Operational And Production Limits And Work Practices

a. Operation of the affected urea plant shall not exceed the following limits:

Activity	Process Rate (Ton/Hour)	(Ton/Day)	(Ton/Year)
Granulation	14.0	336	120,408
Prilling	10.4	250	49,167

The above limits were established in Permit 75050110 [T1].

b. The urea granulation and urea prilling operations shall not operate simultaneously producing urea granules and prills.

c. The Permittee shall operate, maintain, and repair all air pollution control equipment associated with the affected urea plant in a manner that assures that the applicable emission limits set in this permit are met at all times. The actions taken by the Permittee to meet this requirement shall include at least the following:

i. Written operating procedures shall be maintained and updated describing normal process and equipment operating parameters; monitoring or instrumentation for measuring control equipment operating parameters, if any; control equipment inspection and maintenance practices; and, availability of spare parts from normal inventory, local suppliers, and other sources. With respect to control equipment maintenance practices, the operating procedures may incorporate the manufacturer's recommended operating instructions, if a copy of these instructions is attached to the procedures.

ii. An adequate inventory of spare parts shall be maintained.

iii. Prompt repairs shall be made upon identification of need, either as a consequence of formal inspections or other observations.

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected urea plant subject to the following:

a. Emissions from the affected urea plant (including granulation and prilling) shall not exceed the following limits:

PM Emissions	
(Ton/Month)	(Ton/Year)
3.7	29.5

These limits are based on the operating limits in Condition 7.3.5 and the maximum emissions for each activity.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 75050110, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.3.7 Testing Requirements

None

7.3.8 Monitoring Requirements

a. Pressure drop across the scrubbers shall be monitored by a manometer or equivalent system. The measured pressure drops shall be prominently displayed so that equipment operators can readily observe them and shall be recorded at least every two hours.

b. Visual inspections of air pollution control equipment shall be conducted on a regular schedule. These inspections shall include a detailed inspection of the performance and condition of control equipment at least once per year.

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected urea plant to demonstrate compliance with Conditions 5.5.1 and 7.3.3 through 7.3.8, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall keep written records of the throughput and operating hours of the affected urea plant and/or individual emission sources as related to the requirements established by Conditions 7.3.5

and 7.3.6. These records may include normal production and operating records and shall be kept on a daily basis.

b. The Permittee shall keep the records of the pressure drop across scrubbers.

c. The Permittee shall keep written records of inspections, other equipment observations, maintenance, and repair of air pollution control equipment which include date, duration, nature, and description of observation or action.

d. The Permittee shall keep written records of the emissions of equipment, based on the records of process operation and control equipment operation required above. These records shall be sufficient to allow the Illinois EPA to evaluate whether the Permittee has complied with all applicable emission limits.

e. The Permittee shall record any period during which any emission source was in operation when its air pollution control equipment was not in operation or was not operating properly. These records shall include the cause for pollution control equipment not operating properly, and shall state what corrective actions were taken, what repairs were made, and what steps were taken to prevent reoccurrence.

f. The Permittee shall record any period during which an emission source was not operating normally, in a manner which would exceed the capability of its air pollution control equipment. These records shall include the cause, and shall state what corrective actions were taken and what steps were taken to prevent reoccurrence.

g. The Permittee shall keep records of monthly and annual aggregate PM and VOM emissions from the affected urea plant, based on operating rates and the applicable emission factors, with supporting calculations.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected urea plant with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Operation of or emissions of PM or PM_{10} from the affected urea plant in excess of the limits specified in Conditions 7.3.5 or 7.3.6 based on the calendar year records, within 30 days of such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.3.12 Compliance Procedures

a. This condition establishes compliance procedures to assure proper operation of control equipment as it is used to comply with limits on PM emissions set in this permit. These procedures make the PM limits set in Condition 7.3.6 enforceable as a practical matter, and the implementation of these procedures may be used to determine compliance with the limits. These procedures are necessary because compliance with PM emission limits cannot be determined by direct continuous monitoring, and monitoring of a surrogate parameter (i.e., pressure drop across a control device) has not been found to be sufficient by itself as a means to assure proper operation of the various control devices operated by the Permittee.

b. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.4.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Activity	Pollutant	Uncontrolled Emission Factor (Lb/Ton)	Controlled Emission Factor (Lb/Ton)
Evaporator	PM/PM_{10}	0.583	0.088
Granulator	PM/PM_{10}	1.657	0.249
Cooler	PM/PM_{10}	0.786	0.131
Dust Separator	PM/PM_{10}	0.110	0.023
Granulation PM Total	PM/PM_{10}	3.136	0.490

Activity	Pollutant	Uncontrolled Emission Factor (Lb/Ton)	Controlled Emission Factor (Lb/Ton)
Granulator	VOM	---	0.011
Prilling	PM/PM_{10}	---	1.2

The PM emission factors are based on stack tests conducted in 1992 and 1993 and assumed control device efficiencies of 85% for Scrubber G52, 85% for Scrubber UF-R42, 79.4% for Scrubber G-56, and 83.3% for Scrubber G-53. The VOM emission factor is based on engineering estimates.

PM Emissions (ton) = [(Granulation Throughput, ton) x (0.49 lb/ton) + (Prilling Throughput, ton) x (1.2 lb/ton)]/(2000 lb/ton)

7.4 Unit: Latex Fertilizer Coating Plant
Control: Baghouses

7.4.1 Description

In the latex coating facility, latex coating is sprayed onto fluidized granular urea fertilizer. The latex coating provides for slow release of the fertilizers to soil. PM emissions are the pollutant of concern from this facility. The latex coating capacity is 5,500 pounds per hour.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
FB-200	Air Fluidized Bed Preheater	Baghouse (BH-200)
FB-300	Fluidized Bed Spray Coating Unit	Baghouse (BH-300)
FB-500	Post Heat Fluidized Bed	Baghouse (BH-500)
FB-600	Fluidized Bed Cooler	None

7.4.3 Applicability Provisions and Applicable Regulations

a. The "affected latex fertilizer coating plant" for the purpose of these unit-specific conditions, includes the emission units listed in Condition 7.4.2 involved in the spraying of latex coating onto fluidized granular urea fertilizer.

b. The affected latex fertilizer coating plant is subject to the emission limits identified in Condition 5.2.2.

c. The affected latex fertilizer coating plant is subject to 35 IAC 212.321(b), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

7.4.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected latex fertilizer coating plant not being subject to 40 CFR 52.21, because the affected latex fertilizer coating

plant did not constitute a major modification upon construction, as a consequence of the conditions in Permit 95010008. The affected latex fertilizer coating plant constituted a net increase of less than 15 tons PM_{10} per year.

b. This permit is issued based on the affected latex fertilizer coating plant (except emission unit FB-300, Fluidized Bed Spray Coating Unit) not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because emission units FB-200, FB-500, and FB-600 do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.4.5 Operational And Production Limits And Work Practices

a. Operation of the affected latex fertilizer coating plant shall not exceed a fertilizer throughput of 5,500 pounds per hour. This limit was established in Permit 95010008 [T1].

b. The Permittee shall operate, maintain, and repair all air pollution control equipment associated with the latex fertilizer coating plant in a manner that assures that the applicable emission limits set in this permit are met at all times. The actions taken by the Permittee to meet this requirement shall include at least the following:

i. Visual inspections of air pollution control equipment shall be conducted on a regular schedule. These inspections shall include a detailed inspection of the performance and condition of the control equipment at least once per year;

ii. An adequate inventory of spare parts shall be maintained; and

iii. Prompt repairs shall be made upon identification of need, either as a consequence of formal inspections or other observations.

7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected latex fertilizer coating plant is subject to the following:

a. Emissions from the affected latex fertilizer coating plant shall not exceed the following limits:

PM Emissions	
(Lb/Hour)	(Ton/Year)
3.15	13.81

These limits are based on the allowable emission limit at the maximum operating rate and maximum hours of operation.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 95010008, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.4.7 Testing Requirements

None

7.4.8 Monitoring Requirements

The Permittee shall monitor the differential pressure across the air pollution control equipment controlling PM emissions from the affected latex fertilizer coating plant.

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected latex fertilizer coating plant to demonstrate compliance with Conditions 5.5.1 and 7.4.3 through 7.4.8, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall keep written records of the throughput of the affected latex fertilizer coating plant and/or individual emission sources as related to the requirements established by Conditions 7.4.5 and 7.4.6. These records may include normal production and operating records and shall be kept on at least a monthly basis.

b. The Permittee shall keep written records of inspections, other equipment observations,

maintenance, and repair of air pollution control equipment which include data, duration, nature, and description of observation or action.

c. The Permittee shall keep written records of the emissions of equipment, based on the records of process operation and control equipment operation required above. These records shall be sufficient to allow the Illinois EPA to evaluate whether the Permittee has complied with all applicable emissions limits.

d. The Permittee shall record any period during which any emission source was in operation when its air pollution control equipment was not in operation or was not operating properly. These records shall include the cause for pollution control equipment not operating properly, and shall state what corrective actions were taken, what repairs were made, and what steps were taken to prevent reoccurrence.

e. The Permittee shall record any period during which an emission source was not operating normally, in a manner which would exceed the capability of its air pollution control equipment. These records shall include the cause, and shall state what corrective actions were taken and what steps were taken to prevent reoccurrence.

f. The Permittee shall record the pressure drop across each PM emission control device at least once each day the affected latex fertilizer coating plant is in operation.

g. The Permittee shall keep records of monthly and annual aggregate PM emissions from the affected latex fertilizer coating plant, based on operating rates and the applicable emission factors, with supporting calculations.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected latex fertilizer coating plant with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Operation of or emissions of PM or PM_{10} from the affected latex fertilizer coating plant in excess of the limits specified in Conditions 7.4.5 or 7.4.6 based on the calendar year records, within 30 days of

such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

a. This section establishes compliance procedures to assure proper operation of control equipment as it is used to comply with limits on PM emissions set in this permit. These procedures make the PM limits set in Condition 7.4.6 enforceable as a practical matter, and the implementation of these procedures may be used to determine compliance with the limits. These procedures are necessary because compliance with PM emission limits cannot be determined by direct continuous monitoring, and monitoring of a surrogate parameter (i.e., pressure drop across a control device) has not been found to be sufficient by itself as a means to assure proper operation of the various control devices operated by the Permittee.

b. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.4.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Activity	Pollutant	Uncontrolled Emission Factor (Lb/Ton)	Controlled Emission Factor (Lb/Ton)
Preheating	PM/PM_{10}	0.145	0.001
Coating	PM/PM_{10}	10.000	0.100
Curing	PM/PM_{10}	0.473	0.005
Cooling	PM/PM_{10}	0.004	---
Coating	VOM	0.0287	---

The PM emission factors are based on stack tests conducted in 1996 and an assumed control device efficiency of 99%.

VOM Emissions (ton) = [(Throughput, ton) x (0.0287 lb/ton)]/(2000 lb/ton).

PM Emissions (ton) = [(Throughput, ton) x (0.110 lb/ton)]/(2000 lb/ton)

or

PM Emissions (ton) = [(Throughput, ton) x (Uncontrolled Emission Factor, lb/ton)] / (2000 lb/ton) * (1 – Control Efficiency*, %).

* As specified by manufacturers or vendors of the control devices or the most recent emissions tests.

7.5 Unit: Nitric Acid Plants
Control: Selective Catalytic Reduction

7.5.1 Description

Nitric Acid Plant #1 is a 270 tons per day (100% acid basis) process built in 1978. Nitric Acid Plant #2 provides an additional 216 tons per day capacity. The nitric acid is either sold to customers or used to produce ammonium nitrate. NO_x emissions occur from the absorption systems and the acid storage tank vents.

Ammonia produced on-site is oxidized in excess oxygen over a platinum bed catalyst to form nitric oxide and water. The nitric oxide is passed through a condenser and cooled, then oxidized to produce nitrogen dioxide. Absorption of nitrogen dioxide in water in bubble cap trays yields a 57-65% nitric acid solution. The nitric acid solution is sent to a bleaching unit where air is used to remove any dissolved oxides of nitrogen.

Nitric Acid Plant #1 employs an extended absorption system to reduce NO_x emissions. Secondary absorption with a refrigerated cooling system is used to promote additional absorption of nitrogen oxides, which are subsequently fed back into the primary absorption column. The tail gas containing residual nitrogen dioxide is vented to the atmosphere with a continuous emission monitoring system. The system is designed with a maximum of 243 ppmv of nitrogen dioxide emissions (3.0 lb/ton).

Nitric Acid Plant #2 has a selective catalytic reduction unit for the control of NO_x emissions, with a continuous emission monitoring system. The system is designed with a maximum of 74 ppmv of nitrogen dioxide emissions.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Tower1	Secondary Absorption Tower (Plant #1)	None
Tower2	Absorption Tower (Plant #2)	Selective Catalytic Reduction

7.5.3 Applicability Provisions and Applicable Regulations

a. The “affected nitric acid plants” for the purpose of these unit-specific conditions, includes the emission units listed in Condition 7.5.2 involved in an the production of nitric acid.

b. The affected nitric acid plants are subject to the emission limits identified in Condition 5.2.2.

c. The affected nitric acid plants are subject to 35 IAC 217.381, Nitric Acid Manufacturing Processes, which provides that:

i. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any weak nitric acid (< 70% by weight) manufacturing process to exceed the following standards and limitations:

A. 1.5 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) (3.0 lb/ton) [35 IAC 217.381(a)(1)]; and

B. Visible emissions in excess of 5 percent opacity [35 IAC 217.381(a)(2)]; and

ii. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any concentrated nitric acid (≥ 70% by weight) manufacturing process to exceed the following standards and limitations:

A. 1.5 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) (3.0 lb/ton) [35 IAC 217.381(c)(1)];

B. 225 ppm of nitrogen oxides (expressed as nitrogen dioxide) in any effluent gas stream emitted to the atmosphere [35 IAC 217.381(c)(2)]; and

C. Visible emissions in excess of 5 percent opacity [35 IAC 217.381(c)(3)].

d. The affected nitric acid plants are subject to New Source Performance Standards for Nitric Acid Plants, 40 CFR 60, Subpart G, which provides that no owner or operator shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which:

i. Contain nitrogen oxides, expressed as nitrogen dioxide, in excess of 1.5 kg per metric ton of acid produced (3.0 lb/ton), the production being expressed as 100 percent nitric acid [40 CFR 60.72(a)(1)].

ii. Exhibit 10 percent opacity, or greater [40 CFR 60.72(a)(2)].

e. This permit is issued based on Nitric Acid Plant #1 complying with 40 CFR 52.21, Prevention of Significant Deterioration (PSD), as a consequence of complying with the NSPS for nitric acid plants, referenced in Condition 7.5.3(c). Construction of this plant began in July 1978. This plant was constructed as a major source of NO_x emissions, with greater than 100 tons per year of emissions (Construction Permit 78030010 and Operating Permit 82040043). At the time of construction of Nitric Acid Plant #1, the NSPS regulations for nitric acid plants reflected the degree of emission reduction achievable through the application of the best system of continuous emission reduction. This is not a determination of "best available control technology" as that term is used in 40 CFR 52.21. (Note: In 1988, Construction Permit 88090042 was issued for a modification of Nitric Acid Plant #1, establishing the operating and emission limits listed in Conditions 7.5.5 and 7.5.6.)

7.5.4 Non-Applicability of Regulations of Concern

None

7.5.5 Operational And Production Limits And Work Practices

a. Operation of the affected nitric acid plants shall not exceed the following limits:

	Nitric Acid Production (100% basis)	
Emission Unit	(Ton/Hour)	(Ton/Year)
Plant #1	11.14	97,500
Plant #2	8.73	76,475

These limits were established in Permits 88090042 and 97050064. The limits for Plant #2 in Permit 97050064 were decreased by three percent (0.27 ton/hour and 2,365) to reflect a higher emission rate from stack tests conducted in 1999 [T1R].

b. At all times, including startup, shutdown and malfunction, the Permittee shall, to the extent practicable, maintain and operate the affected nitric acid plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

7.5.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected nitric acid plants are subject to the following:

a. Emissions from the affected nitric acid plants shall not exceed the following limits:

Emission Unit	NO_x Emissions (Lb/Hour)	NO_x Emissions (Ton/Year)
Plant #1	33.41	146.3
Plant #2	8.22	36.0

These limits are based on the maximum production rate of nitric acid in Condition 7.5.5(a) and emission calculation procedures listed in this section.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permits 88090042 and 97050064, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permits does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 (see also Attachment 3) [T1].

7.5.7 Testing Requirements

a. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR part 60, Appendix A, and 35 IAC 212.109, so as to demonstrate compliance with the emission limits in Condition 7.5.3(c).

b. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, emission measurements shall be conducted as follows, so as to demonstrate compliance with the emission limits in Condition 7.5.6(a):

Measurement of nitrogen oxides shall be according to the phenol disulfonic acid method as published in 36 Fed. Reg. 15, 718, Method 7 [35 IAC 217.101].

c. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified below, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in Condition 7.5.7(e) [40 CFR 60.74(a)].

d. Test methods for compliance determination in Condition 7.5.12(c):

i. Method 7 shall be used to determine the NO_x concentration of each grab sample. Method 1 shall be used to select the sampling site, and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Four grab samples shall be taken at approximately 15-minute intervals. The arithmetic mean of the four sample concentrations shall constitute the run value (C_S) [40 CFR 60.74(b)(2)].

ii. Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas. The measurement site shall be the same as for the NO_x sample. A velocity traverse shall be made once per run within the hour that the NO_x samples are taken [40 CFR 60.74(b)(3)].

iii. The methods of 40 CFR 60.73(c) shall be used to determine the production rate (P) of 100 percent nitric acid for each run. Material balance over the production system shall be used to confirm the production rate [40 CFR 60.74(b)(4)].

e. The owner or operator may use Method 7A, 7B, 7C, or 7D as alternatives to the reference methods and procedures specified above. If Method 7C or 7D is used, the sampling time shall be at least 1 hour [40 CFR 60.74(c)].

f. The owner or operator shall use the procedure in 40 CFR 60.73(b) (see also Condition 7.5.8(f)) to determine the conversion factor for converting the monitoring data to the units of the standard [40 CFR 60.74(d)].

7.5.8 Monitoring Requirements

a. Pursuant to 35 IAC 201.401(a), except as otherwise provided at 35 IAC 201.402 and 35 IAC 201.403, the owners and operators of the following emission sources shall install, operate, calibrate and maintain continuous monitoring equipment for the indicated pollutants.

Nitric acid plants of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid, located in an Air Quality Control Region where the Administrator, USEPA, has specifically determined pursuant to Section 107 of the Clean Air Act that a control strategy for nitrogen dioxide is necessary to attain the national standard, shall monitor for nitrogen oxides at each point of nitrogen oxide emission [35 IAC 201.402(a)(3)].

b. Except for sources permitted to use alternative monitoring pursuant to 35 IAC 201.402, compliance with the Illinois emissions limitations by the owners and operators of emission sources required to monitor continuously shall be determined by the use of equipment which meets the performance specifications set forth in paragraphs 3.1 through 3.8 of 40 CFR 51, Appendix P (1987), and relevant regulations promulgated by the USEPA under Section 111 of the Clean Air Act (42 USC 7411), as amended [35 IAC 201.401(b)].

c. The monitoring and recording requirements of Condition 7.5.8 (see also 35 IAC 201 Subpart L) shall not be applicable during any period of a monitoring system or device malfunction if demonstrated by the owner or operator of the source that the malfunction was unavoidable and is being repaired as expeditiously as practicable. This demonstration may include, but is not limited to, evidence that the device has been properly calibrated and maintained, adequate spare parts are on hand, and trained technicians are available to make repairs [35 IAC 201.404].

d. Pursuant to 35 IAC 201.406, to convert monitoring data to the units of the emission limitation, owners and operators of sources subject to Condition 7.5.8 (see also 35 IAC 201 Subpart L) shall use:

i. The procedures specified in regulations adopted by the USEPA under Section 111 of the Clean Air Act and made applicable in Illinois pursuant to Section 9.1 of the Illinois Environmental Protection Act [35 IAC 201.406(a)]; or where necessary

ii. The procedures specified in 40 CFR 51, Appendix P, paragraph 5 (1987) [35 IAC 201.406(b)]; or

iii. Alternative measurement and data reduction methods may be utilized if demonstrated by the owner or operator of the affected source by means including, but not limited to, instrument accuracy tests that such alternative methods will provide information equivalent to the information which would be provided by the above methods [35 IAC 201.406(c)].

e. The source owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides. The pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) of this part shall be nitrogen dioxide. The span value shall be 500 ppm of nitrogen dioxide. Method 7 shall be used for the performance evaluations under 40 CFR 60.13(c). Acceptable alternative methods to Method 7 are given in 40 CFR 60.74(c) (see also Condition 7.5.7(e)) [40 CFR 60.73(a)].

f. The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be reestablished during any performance test under 40 CFR 60.8 or any continuous monitoring system performance evaluation under 40 CFR 60.13(c) [40 CFR 60.73(b)].

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected nitric acid plants to demonstrate compliance with Conditions 5.5.1 and 7.5.3 through 7.5.8, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all

tests which are performed. These records shall be retained for at least five (5) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Pursuant to 35 IAC 201.407, owners and operators of sources which are subject to the monitoring and recording requirements of Condition 7.5.8 (see also 35 IAC 201 Subpart L) shall maintain files of emission information at the facility and make the information available to the Illinois EPA upon request. This information shall be retained for at least two years from the date of collection, and shall include:

i. Emission measurements [35 IAC 201.407(a)];

ii. Continuous monitoring system performance testing measurements [35 IAC 201.407(b)];

iii. Performance evaluations [35 IAC 201.407(c)];

iv. Calibration checks [35 IAC 201.407(d)];

v. Maintenance and adjustments performed [35 IAC 201.407(e)];

vi. Quarterly reports submitted pursuant to Condition 7.5.10(b) (see also 35 IAC 201.405) [35 IAC 201.407(f)]; and

vii. Data reduction information used pursuant to Condition 7.5.8(d) (see also 35 IAC 201.406) [35 IAC 201.407(g)].

c. Records addressing use of good operating practices for the selective catalytic reduction system:

i. Records for periodic inspection of the control device with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Records of emissions and operation of the affected nitric acid plants, including:

i. The daily production rate and hours of operation [40 CFR 60.73(c)];

ii. The types of nitric acid produced (i.e., weak nitric acid or concentrated nitric acid) and production converted to 100% basis;

iii. NO_x emissions as determined by the continuous monitoring system required by Condition 7.5.8 with documentation of conversion factors and calculations, as applicable;

vi. Occurrence and duration of startups; and

v. A record of observed excess visible emissions.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected nitric acid plant with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.5.7(a) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

b. Pursuant to 35 IAC 201.405, owners and operators of sources subject to the continuous monitoring requirements of Condition 7.5.8 (see also 35 IAC 201 Subpart L) shall report the following information:

i. Pursuant to 35 IAC 201.405(a), for periods of emissions in excess of any emission limitation applicable to the source adopted by the Board:

A. The starting date and time of the excess emissions [35 IAC 201.405(a)(1)];

B. The duration of the excess emissions [35 IAC 201.405(a)(2)];

C. The magnitude of excess emissions [35 IAC 201.405(a)(3)];

D. The cause of the excess emissions, if known [35 IAC 201.405(a)(4)];

E. Corrective actions and actions taken to lessen the emissions [35 IAC 201.405(a)(5)];

F. The operating status of the monitoring system, including the dates and times of any periods during which it was inoperative [35 IAC 201.405(a)(6)]; and

G. Other information, including but not limited to, monitoring location, monitoring maintenance records and source operating hours, which the Illinois EPA may require by permit [35 IAC 201.405(a)(7)].

ii. If there were no excess emissions during the reporting period, the report shall so state and include information about the operating status of the monitoring equipment during that period [35 IAC 201.405(d)].

iii. Reports shall be submitted within 45 days of the end of every calendar quarter [35 IAC 201.405(e)]. Reports shall be sent to the Illinois EPA, Compliance Section and Regional Field Office.

c. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as any 3-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous 1-hour periods) as measured by a continuous monitoring system exceed the standard under 40 CFR 60.72(a) [40 CFR 60.73(e)].

d. Operation of or emissions of NO_x from the affected nitric acid plants in excess of the limits specified in Conditions 7.5.5 or 7.5.6 based on the calendar year records, within 30 days of such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.5.12 Compliance Procedures

a. Compliance with Condition 7.5.3(c) shall be based on proper operation of the selective catalytic reduction system and by use of the continuous monitoring system, as addressed by Conditions 7.5.5, 7.5.8, and 7.5.9(b) and (c).

b. Pursuant to 40 CFR 60.74(b), the owner or operator shall determine compliance with the NO_X standard in 40 CFR 60.72 as follows. See Condition 7.5.7(d) for applicable test methods:

i. The emission rate (E) of NO_X shall be computed for each run using the following equation:

$$E = (C_S \times Q_{Sd})/(P \times K)$$

Where:

E = Emission rate of NO_x as nitrogen dioxide, kg/metric ton (lb/ton) of 100 percent nitric acid.

C_S = Concentration of NO_x as nitrogen dioxide, g/dscm (lb/dscf).

Q_{sd} = Volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = Acid production rate, metric ton/hr (ton/hr) or 100 percent nitric acid.

K = Conversion factor, 1000 g/kg (1.0 lb/lb).

c. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.5.9 and the emission factors determined by the procedures in Condition 7.5.8(f) (continuous monitoring system

data) or the following emission factors and formulas listed below:

Emission Unit	Pollutant	Uncontrolled Emission Factor (Lb/Ton)	Controlled Emission Factor (Lb/Ton)
Tower1	NO_x	3.00	---
Tower2	NO_x	204.00	1.02

The Tower 1 NO_x emission factor is based on the maximum allowable limit in Condition 7.5.3(c) and (d). The Tower 2 NO_x emission factors are based on stack tests conducted in 1999 and an assumed control device efficiency of 99.5%.

NO_x Emissions (ton) = [(Production, ton) x (The Appropriate Emission Factor, lb/ton)]/(2000 lb/ton)

or

NO_x Emissions (ton) = [(Production, ton) x (Uncontrolled Emission Factor, lb/ton)]/(2000 lb/ton) * (1 – Control Efficiency*, %).

* (As specified by manufacturers or vendors of the control devices or the most recent emissions tests.

7.6 Unit: Nitric Acid Storage/Ammonium Nitrate Plant
Control: Scrubber and Mist Eliminator

7.6.1 Description

The final acid from Nitric Acid Plants #1 and #2 is fed to nitric acid storage tanks. The vents of all of these tanks are vented to a common header which exhausts to the Packed Bed Scrubber and Brink HV Mist Eliminator in the Ammonium Nitrate Plant (described below).

The neutralization of nitric acid with gaseous ammonia produces an 85% ammonium nitrate solution. All of the ammonium nitrate manufactured is for use in the on-site production of urea ammonium nitrite solution (see description in Condition 7.3.1). The capacity of the ammonium nitrate plant is 600 tons per day.

The acid neutralizer is a PM emission source that vents through a custom-built scrubber followed by a modified Brink HV Mist Eliminator. The mist eliminator is a series of three mesh pads irrigated by steam condensation and ammonium nitrate solution droplets.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
ME-01-0109A	Nitric Acid Storage Tank #1 (50,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
ME-01-0109B	Nitric Acid Storage Tank #2 (25,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
062-D-1806	Nitric Acid Storage Tank #3 (120,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3602	Nitric Acid Storage Tank #4 (50,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3604	Nitric Acid Storage Tank #5 (50,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
D-3606	Nitric Acid Storage Tank #6 (50,000 Gal)	Packed Bed Scrubber and Brink HV Mist Eliminator
AN-1	Acid Neutralizer	Packed Bed Scrubber and Brink HV Mist Eliminator

7.6.3 Applicability Provisions and Applicable Regulations

a. The “affected nitric acid tanks and neutralizer” for the purpose of these unit-specific conditions,

includes the emission units listed in Condition 7.6.2 for the storage or processing of nitric acid and controlled by a common scrubber/mist eliminator system.

b. The affected nitric acid tanks and neutralizer are subject to the emission limits identified in Condition 5.2.2.

c. The affected nitric acid neutralizer is subject to 35 IAC 212.321(b), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. The affected nitric acid storage tanks are subject to 35 IAC 217.381, Nitric Acid Manufacturing Process, which provides that no person shall cause or allow the emission of nitrogen oxides into the atmosphere from any weak nitric acid manufacturing process to exceed 0.05 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) from any acid storage tank vent (0.1 lb/ton) [35 IAC 217.381(a)(3)].

7.6.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected nitric acid neutralizer not being subject to the New Source Performance Standards (NSPS) for Ammonium Sulfate Manufacture, 40 CFR Part 60, Subpart PP, because the affected nitric acid neutralizer does not manufacture ammonium sulfate.

b. This permit is issued based on the affected nitric acid tanks not being subject to the New Source Performance Standards (NSPS) for VOL Storage Vessels, 40 CFR Part 60, Subpart Kb, because the affected nitric acid tanks do not store volatile organic liquid.

c. This permit is issued based on the affected nitric acid tanks not being subject to 35 IAC 215 Subpart B, because the affected tanks are not being used to store an organic material.

d. This permit is issued based on the affected nitric acid neutralizer not being subject to 35 IAC Part 217, Subpart O, Nitric Acid Manufacturing Process, because the affected nitric acid neutralizer does not produce nitric acid.

e. This permit is issued based on the affected nitric acid neutralizer not being subject to 40 CFR 52.21, because the modifications to the affected nitric acid neutralizer did not constitute a major modification, as a consequence of the conditions in Permit 98020034. The modifications to the affected nitric acid neutralizer constituted a net increase of less than 15 tons PM_{10} per year (see Attachment 3).

e. This permit is issued based on the affected nitric acid tanks and neutralizer not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected nitric acid tanks and neutralizer do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.6.5 Operational And Production Limits And Work Practices

a. Operation of the affected nitric acid neutralizer shall not exceed 600 tons per day and 219,000 tons per year of ammonium nitrate production. These limits were established in Permit 98020034 [T1].

b. Emissions from the affected nitric acid neutralizer shall be controlled by a scrubber and mist eliminator.

c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.

d. This permit is issued based on the affected nitric acid tanks not being used to store any organic materials.

7.6.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected nitric acid tanks and neutralizer are subject to the following:

a. Emissions from the affected nitric acid neutralizer shall not exceed the following limits:

PM Emissions (Ton/Day)	PM Emissions (Ton/Year)
0.10	27.38

These limits are based on the operating limits in Condition 7.6.5 and the maximum emission rate on a 100% ammonium nitrate basis.

Compliance with annual limits shall be determined on a daily basis from the sum of the data for the current day plus the preceding 364 days (running 365 day total) [T1].

The above limitations were established in Permit 98020034, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.6.7 Testing Requirements

Within 60 days of a written request from the Illinois EPA, a visual determination of the opacity of emissions from the affected nitric acid neutralizer shall be made by an independent certified observer in accordance with methods and procedures shown in 35 IAC 212.109 and 40 CFR Part 60, Appendix A, Method 9, so as to demonstrate compliance with the emission limits in Condition 7.6.3.

7.6.8 Monitoring Requirements

None

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected nitric acid tanks and neutralizer to demonstrate compliance with Conditions 5.5.1 and 7.6.3 through 7.6.6, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall maintain maintenance records for perform periodic maintenance of the ammonium nitrate neutralizer scrubber and mist eliminator, including:

i. Records for periodic inspection of the control devices with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

b. The Permittee shall keep daily production records (i.e., log sheets) for the affected nitric acid neutralizer, including production of ammonium nitrate (100% basis).

c. The Permittee is required to condense the compiled daily records required in Condition 7.6.9(b) into a monthly report. The monthly report shall include, but is not limited to, the following items, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the limits in Conditions 7.6.3(c) and 7.6.6(a):

i. Daily production for the ammonium nitrate neutralizer on a 100% ammonium nitrate basis;

ii. Annual production (365 day running total) for the ammonium nitrate neutralizer on a 100% ammonium nitrate basis;

iii. Daily emissions calculations on a 100% ammonium nitrate basis;

iv. Current annual emissions (i.e., 365 day running total); and

v. If applicable, a list of any days in which the daily or annual production and or emissions exceeded the allowable limits.

d. The Permittee shall keep records of annual throughput of nitric acid (tons) for the affected nitric acid tanks.

e. The Permittee shall keep records of monthly and annual aggregate PM and NO_x emissions from the affected nitric acid tanks and neutralizer, based on operating rates and the applicable emission factors, with supporting calculations.

f. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be

retained for at least five (5) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected nitric acid tank or neutralizer with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. If there is an exceedance of the requirements of this permit as determined by the records required by this permit (including continued operation of the affected nitric acid tanks and neutralizer with a defect in a control devices), the Permittee shall submit a report to the Illinois EPA, Compliance Section, within thirty (30) days after the exceedance. The report shall include the emissions released in accordance with recordkeeping requirements, a copy of the relevant records, and a description of the exceedances or violation and efforts to reduce emissions and future occurrences.

b. In conjunction with the annual emissions reporting requirements indicated in Condition 5.7.2, the applicant shall include the following additional information:

i. Each month’s, daily and annual ammonium nitrate neutralizer production records for the preceding calendar year (i.e., preceding 12 months).

ii. Each month’s, monthly and annual emission totals for the preceding calendar year (i.e., preceding 12 months).

iii. If applicable, a summary of the days that the ammonium nitrate neutralizer exceed the daily or annual emissions and/or production exceeded the limitations in Conditions 7.6.6(a), if any.

iv. If there have been no exceedances during the prior calendar year the Annual Emissions Report shall include a statement to that effect.

c. The Permittee shall notify the Illinois EPA, Compliance Section, of the storage of any organic material, which is prohibited by Condition 7.6.5, within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. A person planning to conduct testing for PM emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.6.7 (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

e. Three (3) copies of the Final Report(s) for the tests conducted pursuant to Condition 7.6.7 shall be submitted to the Illinois EPA, Compliance Section, within 14 days after the test results are compiled and finalized.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.6.12 Compliance Procedures

a. Compliance with Conditions 5.5.2, 7.6.3(c) and 7.6.3(d) is assumed by proper operation of the Packed Bed Scrubber and Brink HV Mist Eliminator, as addressed by Conditions 7.6.5(c) and 7.6.9(a).

b. Compliance with the annual PM emission limit shall be determined from a running total of 365 days of nitric acid neutralizer operations data collected on a daily basis, using the emission calculation procedures provided below. Summaries of the daily data shall be compiled according to calendar month, as specified in

Condition 7.6.9(c), and emissions calculations may be preformed on a monthly frequency.

c. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.6.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Activity	Pollutant	Uncontrolled Emission Factor (Lb/Ton)	Controlled Emission Factor (Lb/Ton)
Nitric Acid Storage	NO_x	--	0.10
Ammonium Nitrate Production	PM/PM_{10}	30.12	0.25

The PM emission factors are based on engineering estimates and an assumed control device efficiency of 99.19% (73% for the scrubber and 97% for the mist eliminator. The NO_x emission factor is based on the maximum allowable limit in Condition 7.6.3(d).

Emissions (ton) = [(Throughput, ton) x (Controlled Emission Factor, lb/ton)]/(2000 lb/ton)

or

Emissions (ton) = [(Throughput, ton) x (Uncontrolled Emission Factor, lb/ton)] / (2000 lb/ton) * (1 – Control Efficiency*, %).

* As specified by manufacturers or vendors of the control devices or the most recent emissions tests.

7.7 Unit: Compressors

7.7.1 Description

The Ammonia Plant and Carbon Dioxide Recovery Plants both contain compressors. In the Ammonia Plant, synthesis gas is compressed in three natural gas-fired Clark compressors (C-02A, B, and C) operating in parallel to condense and separate ammonia. In the Carbon Dioxide Recovery Plants, carbon dioxide is compressed using an Ingersoll-Rand natural gas-fired compressor (QC-2) and an electric compressor.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
C-02A, C-02B, C-02C	Clark Compressors (150 mmBtu/Hr Total)	None
QC-2	Ingersoll-Rand Compressor (20 mmBtu/Hr)	None

7.7.3 Applicability Provisions and Applicable Regulations

a. The "affected compressor" for the purpose of these unit-specific conditions, is an internal combustion engine listed in Condition 7.7.2.

b. Each affected compressor is subject to the opacity limits identified in Condition 5.2.2(b).

c. The affected compressors are subject to 35 IAC 215.301, which states that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material [35 IAC 215.301].

d. The affected compressors are subject to 35 IAC 214, Subpart K, Process Emission Sources, which states that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, [35 IAC 214.301].

7.7.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected compressors not being subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion

emission units, because the affected compressors are not by definition fuel combustion emission units.

b. This permit is issued based on the affected compressors not being subject to 35 IAC 217.71, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of the affected compressors are less than 73.2 MW (250 mmBtu/hr) and the affected compressors are not by definition fuel combustion emission units.

c. This permit is issued based on the affected compressors not being subject to 35 IAC 212.321 because due to the unique nature of this process, such rules cannot reasonably be applied.

d. This permit is issued based on the affected compressors not being subject to 35 IAC 214.122 and 214.304, emissions of sulfur dioxide from new fuel burning process emission sources, because the affected compressors do not burn solid or liquid fuel.

e. This permit is issued based on the affected compressors not being subject to 40 CFR 60 Subpart GG, the NSPS for Stationary Gas Turbines, because the affected compressors were constructed before October 3, 1977, which is the applicability date for this regulation.

f. This permit is issued based on the affected compressors not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected compressors does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.7.5 Control Requirements

None

7.7.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.7.7 Testing Requirements

None

7.7.8 Monitoring Requirements

None

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected compressors to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

a. Annual fuel input for the affected compressors (Btu/month and Btu/year); and

b. The aggregate annual NO_x, PM, SO_2, and VOM emissions from the affected compressors, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected compressors with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Notification within 60 days of operation of an affected compressor that may not have been compliance with the opacity limitations in Condition 5.2.2(b), with a copy of such record for each incident.

b. Emissions of NO_x, PM, SO_2, or VOM from the affected compressors in excess of the limits specified in Condition 5.5.1 based on the calendar year records, within 30 days of such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.7.12 Compliance Procedures

a. Compliance with Conditions 7.7.3(c) and (d) is assumed to be achieved by the work-practices inherent in the operation of the affected compressors using natural gas, so that no compliance procedures are set in this permit addressing these regulations. The organic emissions from natural gas combustion consist of a mixture of compounds, mostly methane, and are

not considered photochemically reactive. The photochemically reactive organic components do not exceed the percentage composition criteria in 35 IAC 211.4690.

b. Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.7.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Pollutant	Emission Factor (Lb/mmBtu)	Emission Factor (Lb/10^6 scf)
NO_x (Clark)	---	2,850
NO_x (Ingersoll-Rand)	---	6,780
PM	0.0483	---
SO_2	0.000588	---
VOM (Clark)	---	921
VOM (Ingersoll-Rand)	---	390

The PM and SO_2 emission factors are for uncontrolled 2-stroke lean burn engines, AP-42, Table 3.2-1, Volume I, Supplement F, July 2000. The NO_x and VOM emission factors are based on stack tests conducted in 1995.

Compressor Emissions (ton) = [(Fuel Input, Btu) / 1,000,000] x (The Appropriate Emission Factor, lb/mmBtu)/(2000 lb/ton).

Compressor Emissions (ton) = [(Fuel Input, Btu) / 1,000,000 / (1,000 Btu/scf)] x (The Appropriate Emission Factor, lb/10^6 scf)/(2000 lb/ton).

7.8 Unit: Boiler House

7.8.1 Description

The Boiler House consists of three natural gas fired boilers for the supply of process steam and two stand-by turbine generators. Only one of the three boilers (S-7) is in operation under normal plant conditions; the other two boilers (S-5 and S-6) serve as back-ups. All boilers were constructed before 1989.

The two turbines generators, which serve as stand-by sources of electricity, are classified as insignificant activities.

Emissions from these units include fuel combustion products. All emissions from the boilers are uncontrolled.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
S-5	S-5 Boiler (70.5 mmBtu/Hr)	None
S-6	S-6 Boiler (48 mmBtu/Hr)	None
S-7	S-7 Boiler (170 mmBtu/Hr)	None

7.8.3 Applicability Provisions and Applicable Regulations

a. An "affected boiler" for the purpose of these unit specific conditions is a steam generating unit that is listed in Condition 7.8.2.

b. The emission of carbon monoxide (CO) into the atmosphere from each affected boiler with actual heat input greater than 2.9 MW (10 mmBtu/hr) shall not exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

c. Each affected boiler is also subject to the opacity limits identified in Condition 5.2.2(c).

7.8.4 Non-Applicability of Regulations of Concern

a. Each affected boiler is not subject to 35 IAC 217.141, because the actual heat input of each affected boiler is less than 73.2 MW (250 mmBtu/hr).

b. Pursuant to 35 IAC 215.303, each affected boiler, i.e., fuel combustion emission unit, is not subject to 35 IAC 215.301, Use of Organic Material.

c. Each affected boiler is not subject to the New Source Performance Standard 40 CFR 60 Subpart Dc, Small

Industrial-Commercial-Institutional Steam Generating Units, since each affected boiler with a heat input capacity between 10 mmBtu/hr and 100 mmBtu/hr, inclusive, was constructed, modified, or reconstructed prior to June 9, 1989, which is the applicability date.

d. Each affected boiler is not subject to the New Source Performance Standard 40 CFR 60 Subpart Db, Industrial-Commercial-Institutional Steam Generating Units, since each affected boiler with a heat input capacity greater than 100 mmBtu/hr was constructed, modified, or reconstructed prior to June 19, 1984, which is the applicability date.

e. There are no applicable requirements for particulate matter or sulfur dioxide for affected boilers firing natural gas.

f. This permit is issued based on the affected boilers not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boilers either do not use an add-on control device to achieve compliance with an emission limitation or standard or do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.8.5 Operational And Production Limits And Work Practices

None

7.8.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.8.7 Testing Requirements

None

7.8.8 Monitoring Requirements

None

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected boilers to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

a. Total natural gas usage in the affected boilers (ft^3/year); and

b. Annual aggregate NO_x, PM, SO_2, and VOM emissions from the affected boilers, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Notification within 60 days of operation of an affected boiler that may not have been in compliance with the opacity limitations in Condition 5.5.2(c), with a copy of such record for each incident.

b. Emissions of NO_x, PM, SO_2, or VOM from the affected boilers in excess of the limits specified in Condition 5.5.1 based on the calendar year records, within 30 days of such an occurrence. The report shall include the emission released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.8.12 Compliance Procedures

a. Compliance with Conditions 7.8.3(b) and (c) is demonstrated under inherent operating conditions of an affected boiler fired with natural gas, so that no compliance procedures are set in this permit addressing these requirements.

b. Compliance with the emission limits in Condition 5.5.1 shall be based on the recordkeeping requirements in Condition 7.8.9 and the most recent stack test emission factors or the following emission factors and formulas listed below:

Pollutant	Emission Factor (Lb/10^6 ft^3)
PM	7.6
SO_2	0.6
VOM	5.5
NO_x (S-5 and S-6)	100.0
NO_x (S-7)	143.0

These are the emission factors for uncontrolled natural gas combustion in small boilers (<100 mmBtu/hr) and large boilers (>100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement D, March, 1998. The NO_x emission factor for boiler S-7 is based on stack tests conducted in 1995.

Boiler Emissions (ton) = [(Natural Gas Consumed, ft^3) / 1,000,000] * (The Appropriate Emission Factor, lb/^{6} ft^3)/(2000 lb/ton).

7.9 Unit: Petroleum Storage Tanks

7.9.1 Description

There is one 881-gallon above ground gasoline storage tank, one 1,000-gallon above ground #2 diesel fuel storage tank, and one 150-gallon #2 diesel fuel storage tank. The diesel storage tanks are classified as insignificant activities. The primary pollutants of concern are VOM and HAP emissions due to working and breathing losses from the storage tanks.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Gas1	Gasoline Storage Tank (881 Gallons)	None

7.9.3 Applicability Provisions and Applicable Regulations

a. The "affected storage tank" for the purpose of these unit-specific conditions, is a storage tank with a storage capacity of less than 40,000 gallons, as listed in Condition 7.9.2.

b. The affected storage tank is subject to 35 IAC 215.301, which specifies that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exception: if no odor nuisance exists this limitation shall apply only to photochemically reactive material [35 IAC 215.301].

c. The affected storage tank is subject to the requirements of 35 IAC 215.122(b) because the affected storage tank has a storage capacity greater than 946 liters (250 gallons).

7.9.4 Non-Applicability of Regulations of Concern

a. The affected storage tank is not subject to 35 IAC 215 Subpart B: Organic Emissions from Storage and Loading Operations (except 35 IAC 215.122(b)), because the tank has a capacity of less than 40,000 gallons.

b. This permit is issued based on the affected storage tank not being subject to 40 CFR Part 60, Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels, because the construction date of the tank is before the applicability date of July 23, 1984.

c. The affected storage tank is not subject to 35 IAC 215.583, Gasoline Dispensing Operations – Storage Tank Filling Operations, because the tank has a capacity less than 2,000 gallons, was in place and operating before January 1, 1979, and this source is not located in a county listed in 35 IAC 215.583(b)(4).

d. This permit is issued based on the affected storage tank not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected storage tank does not use an add-on control device to achieve compliance with an emission limitation or standard and does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.9.5 Control Requirements

The affected storage tank shall be equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 215.108, or unless such tank is a fitted with a recovery system as described in 35 IAC 215.121. If no odor nuisance exists the limitations of this condition shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) [35 IAC 215.122(b) and (c)].

7.9.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.9.7 Testing Requirements

None

7.9.8 Inspection Requirements

None

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected storage tank to demonstrate compliance with Conditions 5.5.1 and 7.9.5, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall maintain records indicating compliance with 35 IAC 215.122 (e.g., the presence of a submerged loading pipe) for the affected storage tank. These records shall be kept up to date and be retained until the tank is removed from the source.

b. The Permittee shall maintain, the identification and properties of each organic liquid stored at the source, as related to emissions, i.e., vapor pressure and molecular weight.

c. The Permittee shall maintain records of the following items on an annual basis:

i. The throughput of each organic liquid through the tank (gallons/year); and

ii. The VOM emissions attributable to each organic liquid stored at the source, tons/year, with supporting calculations, calculated utilizing an approved USEPA methodology, such as the current version of the TANKS program.

7.9.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected storage tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Any loading of organic liquid with a true vapor pressure greater than or equal to 17.24 kPa (2.5 psia) in an affected storage tank without usage of a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps taken to avoid future non-compliance.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.9.12 Compliance Procedures

a. Compliance with the requirements in Condition 7.9.5 shall be determined by the recordkeeping and reporting requirements in Condition 7.9.9 and 7.9.10.

b. Emissions from the affected storage tank shall be determined by the recordkeeping requirements in

Condition 7.9.9. Calculations may be based on the current version of the TANKS program or AP-42 emission factors.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after August 1, 2003 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

a. The changes do not violate applicable requirements;

b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

c. The changes do not constitute a modification under Title I of the CAA;

d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and

e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:

i. Describe the physical or operational change;

ii. Identify the schedule for implementing the physical or operational change;

iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;

iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and

v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

Monitoring Period	Report Due Date
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

a. The name and identification of the affected unit(s);

b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;

d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;

e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;

f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and

g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

a. The name and identification of the affected unit(s);

b. The date and time of the sampling or measurements;

c. The date any analyses were performed;

d. The name of the company that performed the tests and/or analyses;

e. The test and analytical methodologies used;

f. The results of the tests including raw data, and/or analyses including sample calculations;

g. The operating conditions at the time of the sampling or measurements; and

h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:

i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

iii. Illinois EPA - Air Permit Section

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

iv. USEPA Region 5 - Air Branch

USEPA (AE - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control

equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

i. At reasonable times, for the purposes of assuring permit compliance; or

ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any

loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].

b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more

frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 – Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and

d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal

application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(l), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 - Particulate Matter Emissions from Process Emission Units

10.1.1 Section 212.321 - Process Emission Units For Which Construction or Modification Commenced On or After April 14, 1972.

a. Except as further provided in 35 IAC Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of this Section.

b. Interpolated and extrapolated values of the data in subsection (c) of this Section shall be determined by using the equation:

$$E = A(P)^B$$

Where:

P = Process weight rate; and
E = Allowable emission rate; and,

i. Up to process weight rates of 408 Mg/hr (450 ton/hr):

	Metric	English
P	Mg/hr	Ton/hr
E	kg/hr	lb/hr
A	1.214	2.54
B	0.534	0.534

ii. For process weight rate greater than or equal to 408 Mg/hr (450 ton/hr):

	Metric	English
P	Mg/hr	Ton/hr
E	kg/hr	lb/hr
A	11.42	24.8
B	0.16	0.16

c. Limits for Process Emission Units For Which Construction of Modification Commenced On or After April 14, 1972

Metric		English	
P	E	P	E
Mg/hr	kg/hr	Ton/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.20	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

Where:

P = Process weight rate in Mg/hr or Ton/hr, and
E = Allowable emission rate in kg/hr or lb/hr.

10.1.2 Section 212.322 - Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972

a. Except as further provided in 35 IAC Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14,1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of this Section.

b. Interpolated and extrapolated values of the data in subsection (c) of this Section shall be determined by using the equation:

$$E = C + A(P)^B$$

Where:

P = Process weight rate; and,
E = Allowable emission rate; and,

i. For process weight rates up to 27.2 Mg/hr (30 ton/hr):

	Metric	English
P	Mg/hr	Ton/hr
E	kg/hr	lb/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

ii. For process weight rates in excess or 27.2 Mg/hr (30 ton/hr):

	Metric	English
P	Mg/hr	Ton/hr
E	kg/hr	lb/hr
A	25.21	55.0
B	0.11	0.11
C	- 18.4	- 40.0

c. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972

Metric		English	
P	E	P	E
Mg/hr	kg/hr	Ton/hr	lb/hr
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.20	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00

Metric		English	
P	E	P	E
Mg/hr	kg/hr	Ton/hr	lb/hr
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

Where:

P = Process weight rate in Mg/hr or Ton/hr, and
E = Allowable emission rate in kg/hr or lb/hr.

10.2 Attachment 2 - Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

10.3 Attachment 3 Tables indicating contemporaneous increases and decreases

10.3.1 Net PM emissions increase determination from Ammonium Nitrate Neutralizer Project, Construction Permit 98020034 (issued on 5/18/1998).

Table 1 - Representative Emissions
Ammonium Nitrate Neutralizer Controlled by Existing Mist Eliminator (97%)

Year	Ammonium Nitrate Production (Ton/Year)	Emission Factor (Lb/Ton)	PM Emissions (Ton/Year)
1996	98,422	0.3100	15.26
1997	95,583	0.3053	14.56
Average	96,902.5	0.30765	14.91

Table 2 - Emissions From This Project
Ammonium Nitrate Neutralizer Controlled by Custom Built Scrubber and Modified Mist Eliminator

Ammonium Nitrate Production (Ton/Year)	219,000
Emission Factor (Lb/Ton)	0.25
Particulate Matter (Ton/Year)	27.38

Table 3 - Netting

	PM Emissions (Ton/Year)
Ammonium Nitrate Neutralizer Project	27.38
Average 1996 and 1997	- 14.91
Net Increase	12.47

10.3.2 Net NO_x emissions increase determination from Nitric Acid Plant Project, Construction Permit 88090042 (issued on 11/29/1988).

Table 4 - Netting

	NO_x Emissions (Ton/Year)
Nitric Acid Plant Project	146.3
12 months prior to application	- 106.6
Net Increase	39.7

10.4 Attachment 4 - Guidance on Revising This Permit

The Permittee must submit an application to the Illinois EPA using the appropriate revision classification in accordance with Sections 39.5(13) and (14) of the Act and 35 IAC 270.302. Specifically, there are currently three classifications for revisions to a CAAPP permit. These are:

1. Administrative Permit Amendment;

2. Minor Permit Modification; and

3. Significant Permit Modification.

The Permittee must determine, request, and submit the necessary information to allow the Illinois EPA to use the appropriate procedure to revise the CAAPP permit. A brief explanation of each of these classifications follows.

1. Administrative Permit Amendment

- Corrects typographical errors;
- Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
- Requires more frequent monitoring or reporting by the Permittee;
- Allows for a change in ownership or operational control of the source where no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Illinois EPA. This shall be handled by completing form 272-CAAPP, REQUEST FOR OWNERSHIP CHANGE FOR CAAPP PERMIT; or
- Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits.

2. Minor Permit Modification

- Do not violate any applicable requirement;
- Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

- Do not require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;

- Do not seek to establish or change a permit term or condition for which there is no corresponding underlying requirement and which avoids an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

    - A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA; and

    - An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the CAA.

- Are not modifications under any provision of Title I of the CAA;

- Are not required to be processed as a significant permit modification; and

- Modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches.

An application for a minor permit modification shall include the following:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;

- The source's suggested draft permit/conditions;

- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

- Information as contained on form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT for the Illinois EPA to use to notify USEPA and affected States.

3. <u>Significant Permit Modification</u>

- Applications that do not qualify as either minor permit modifications or as administrative permit amendments;

- Applications requesting a significant change in existing monitoring permit terms or conditions;

- Applications requesting a relaxation of reporting or recordkeeping requirements; and

- Cases in which, in the judgment of the Illinois EPA, action on an application for modification would require decisions to be made on technically complex issues.

An application for a significant permit modification shall include the following:

- A detailed description of the proposed change(s), including all physical changes to equipment, changes in the method of operation, changes in emissions of each pollutant, and any new applicable requirements which will apply as a result of the proposed change. Note that the Permittee need only submit revised forms for equipment and operations that will be modified.

The Illinois EPA requires the information on the following appropriate forms to be submitted in accordance with the proper classification:

- Form 273-CAAPP, REQUEST FOR ADMINISTRATIVE PERMIT AMENDMENT FOR CAAPP PERMIT; or

- Form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT; or

- Form 200-CAAPP, APPLICATION FOR CAAPP PERMIT (for significant modification).

Application forms can be obtained from the Illinois EPA website at http://www.epa.state.il.us/air/forms.

Note that the request to revise the permit must be certified for truth, accuracy, and completeness by a responsible official.

Note that failure to submit the required information may require the Illinois EPA to deny the application. The Illinois EPA reserves the right to require that additional information be submitted as needed to evaluate or take final action on applications pursuant to Section 39.5(5)(g) of the Act and 35 IAC 270.305.

Illinois Environmental Protection Agency
Division Of Air Pollution Control -- Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

Application For Construction Permit (For CAAPP Sources Only)	**For Illinois EPA use only**
	I.D. number:
	Permit number:
	Date received:

This form is to be used by CAAPP sources to supply information necessary to obtain a construction permit. Please attach other necessary information and completed CAAPP forms regarding this construction/modification project.

Source Information

1. Source name:		
2. Source street address:		
3. City:		4. Zip code:
5. Is the source located within city limits?		☐ Yes ☐ No
6. Township name:	7. County:	8. ID number:

Owner Information

9. Name:		
10. Address:		
11. City:	12. State:	13. Zip code:

Operator Information (if different from owner)

14. Name		
15. Address:		
16. City:	17. State:	18. Zip code:

Applicant Information

19. Who is the applicant? ☐ Owner ☐ Operator	20. All correspondence to: (check one) ☐ Owner ☐ Operator ☐ Source
21. Attention name and/or title for written correspondence:	
22. Technical contact person for application:	23. Contact person's telephone number:

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Summary Of Application Contents

24.	Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs: a) Non-attainment New Source Review – 35 IAC Part 203; b) Prevention of Significant Deterioration (PSD) – 40 CFR 52.21; c) Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources – 40 CFR Part 63?	☐ Yes ☐ No
25.	Does the application identify and address all applicable emissions standards, including those found in the following: a) Board Emission Standards – 35 IAC Chapter I, Subtitle B; b) Federal New Source Performance Standards – 40 CFR Part 60; c) Federal Standards for Hazardous Air Pollutants – 40 CFR Parts 61 and 63?	☐ Yes ☐ No
26.	Does the application include a process flow diagram(s) showing all emission units and control equipment, and their relationship, for which a permit is being sought?	☐ Yes ☐ No
27.	Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?	☐ Yes ☐ No
28.	Does the application include the information as contained in completed CAAPP forms for all appropriate emission units and air pollution control equipment, listing all applicable requirements and proposed exemptions from otherwise applicable requirements, and identifying and describing any outstanding legal actions by either the USEPA or the Illinois EPA? Note: The use of "APC" application forms is not appropriate for applications for CAAPP sources. CAAPP forms should be used to supply information.	☐ Yes ☐ No
29.	If the application contains TRADE SECRET information, has such information been properly marked and claimed, and have two separate copies of the application suitable for public inspection and notice been submitted, in accordance with applicable rules and regulations?	☐ Yes ☐ No ☐ Not Applicable, No TRADE SECRET information in this application

Note 1: Answering “No” to any of the above may result in the application being deemed incomplete.

Signature Block

This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.

30. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete.

Authorized Signature:

BY:

_____ _____

AUTHORIZED SIGNATURE TITLE OF SIGNATORY

_____ _____ / _____ / _____

TYPED OR PRINTED NAME OF SIGNATORY DATE

Note 2: An operating permit for the construction/modification permitted in a construction permit must be obtained by applying for the appropriate revision to the source’s CAAPP permit, if necessary.

10.6 Attachment 6 - Guidance on Renewing This Permit

Timeliness - Pursuant to Section 39.5(5)(n) of the Act and 35 IAC 270.301(d), a source must submit to the Illinois EPA a complete CAAPP application for the renewal of a CAAPP permit not later than 9 months before the date of permit expiration of the existing CAAPP permit in order for the submittal to be deemed timely. Note that the Illinois EPA typically sends out renewal notices approximately 18 months prior to the expiration of the CAAPP permit.

The CAAPP application must provide all of the following information in order for the renewal CAAPP application to be deemed complete by the Illinois EPA:

1. A completed renewal application form 200-CAAPP, APPLICATION FOR CAAPP PERMIT.

2. A completed compliance plan form 293-CAAPP, COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE FOR CAAPP PERMIT.

3. A completed compliance certification form 296-CAAPP, COMPLIANCE CERTIFICATION, signed by the responsible official.

4. Any applicable requirements that became effective during the term of the permit and that were not included in the permit as a reopening or permit revision.

5. If this is the first time this permit is being renewed and this source has not yet addressed CAM, the application should contain the information on form 464-CAAPP, COMPLIANCE ASSURANCE MONITORING (CAM) PLAN.

6. Information addressing any outstanding transfer agreement pursuant to the ERMS.

7. a. If operations of an emission unit or group of emission units remain unchanged and are accurately depicted in previous submittals, the application may contain a letter signed by a responsible official that requests incorporation by reference of existing information previously submitted and on file with the Illinois EPA. This letter must also include a statement that information incorporated by reference is also being certified for truth and accuracy by the responsible official's signing of the form 200-CAAPP, APPLICATION FOR CAAPP PERMIT and the form 296-CAAPP, COMPLIANCE CERTIFICATION. The boxes should be marked yes on form 200-CAAPP, APPLICATION FOR CAAPP PERMIT, as existing information is being incorporated by reference.

b. If portions of current operations are not as described in previous submittals, then in addition to the information above for operations that remain unchanged, the application must contain the necessary information on all changes, e.g., discussion of changes, new or revised CAAPP forms, and a revised fee form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT, if necessary.

8. Information about all off-permit changes that were not prohibited or addressed by the permit to occur without a permit revision and the information must be sufficient to identify all applicable requirements, including monitoring, recordkeeping, and reporting requirements, for such changes.

9. Information about all changes made under 40 CFR 70.4(b)(12)(i) and (ii) that require a 7-day notification prior to the change without requiring a permit revision.

The Illinois EPA will review all applications for completeness and timeliness. If the renewal application is deemed both timely and complete, the source shall continue to operate in accordance with the terms and conditions of its CAAPP permit until final action is taken on the renewal application.

Notwithstanding the completeness determination, the Illinois EPA may request additional information necessary to evaluate or take final action on the CAAPP renewal application. If such additional information affects your allowable emission limits, a revised form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT must be submitted with the requested information. The failure to submit to the Illinois EPA the requested information within the time frame specified by the Illinois EPA, may force the Illinois EPA to deny your CAAPP renewal application pursuant to Section 39.5 of the Act.

Application forms may be obtained from the Illinois EPA website at http://www.epa.state.il.us/air/forms.html.

If you have any questions regarding this matter, please contact a permit analyst at 217/782-2113.

Mail renewal applications to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

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